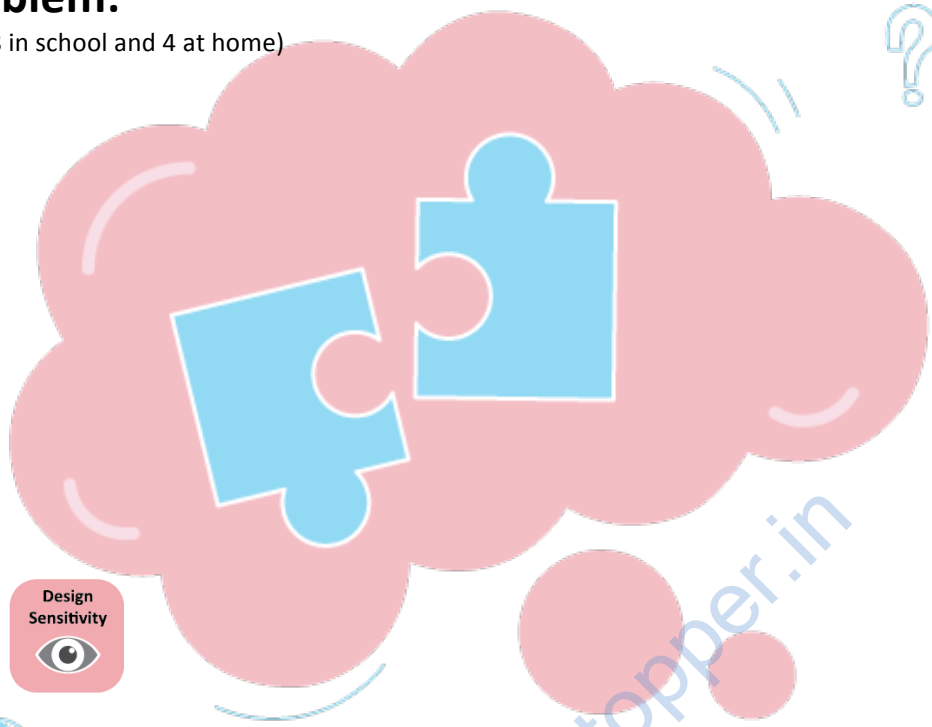
Introduction to Understanding and Analysis of Problem:

12 hours (8 in school and 4 at home)



Design Thinking | Design Sensitivity

Exposure 1	- Basics of information classification and building affinities
Exposure 2	- Basics of drawing inferences and looking for design opportunities
Exposure 3	- Introduction to making a process/ time/journey Map
Exposure 4	- Introduction to Concept overview mappings

Overall Task	**Understanding and Analysis of Problem**
Task 7.1 (at School)	- Primary Research
Task 7.2 (at Home)	- Secondary Research
Task 7.3 (at School + Home)	- Information Mappings - Temporal and Spatial
Task 7.4 (at School + Home)	- Informational Analysis – classifications and affinities
Final Output	- Make a presentation on understanding the problem space + Reflections, Self Assessment and References

7.0 **Module 7**

Introduction to Understanding and Analysis of Problem

(8 hours at school + 4 hours at home)

Introduction:

This stage of the design process in understanding and analysis of the problem space comes after one has done primary and secondary research on the subject of study (described in Modules 3.0 and 4.0). In this module, redesign of an object in the primary classroom is taken as a task to uderstand its importance in the design process.

Aim of the Module:

To expose school students (in Grade 9) to basic fundamentals of being able to analyse a problem in order to get a better understanding of the problem to solve. Analysis is done on the information collected after the primary and secondary research. This module will introduce the basics of classifying observations, seeking inferences and insights, methods of mapping this information and making recommendations /locating opportunities for design.

Place:

Place: Task 7.1 & Task 7.2 done at School and Task 7.3 done at home

Grouping:

Grouping: Class tasks are done in groups of 3-4 and Home tasks are individually

Equipment:

Equipment: Sketchbooks for sketching and taking notes. students may use digital devices like computers or tablets to collate information and make presentations (if available, but not necessary)

Exposures:

Exposure 1: Basics of information classification and building affinities
Exposure 2: Basics of drawing inferences and looking for design opportunities
Exposure 3: Introduction to making a process/ time/journey Map
Exposure 4: Introduction to Concept overview mappings

Design Thinking & Innovation Process involvement:

This task involves the following phases of the DT&I Process:
Phase 1. Observe/Empathise/Research (Primary and Secondary Research)
Phase 2. Understand/Analyse/Define (Analysis of Findings)
Phase 3. Ideate/Alternate/Create (trying creative alternatives)
Phase 4. Build/Prototype/Detail (making the prototype and the presentation)
Phase 5. Evaluate/Reflect/Implement (feedback from others)

Mapping SDG Goals:

The following SDG goals need to be considered while solving this task. While documenting elements and expressions, do think of gender equality and reduced inequalities and concern for life on our planet.

Task 7:

Task 7 = 7.1 + 7.2 + 7.3 + 7.4

School Hours: 12, Home hours: 6

Task 7.0:

Overall Task (Task 7.1 + Task 7.2 + Task 7.3 + Task 7.4):

Task Topic:

Understanding and Analysis of Problem: Re-design of Objects in Primary Classrooms

Investigate, document and **study all the Objects in Primary Classrooms in your school. The aim is to redesign one of them and make it better.**
For this, you'll need to understand its limitations and problems and find appropriate innovative solutions. The student's work in groups of 3-4 and each group can choose one of the objects in the primary classroom to work with.

Task 7.1:

Task 7.1:
School Hours: 4, done in groups of 3-4

Primary Research **(covered in Module 3):**

1. Visit the primary grade classes and do primary research (Observe the objects, environment and how children/teacher makes use of these, converse with them and try to understand their needs)
2. Ask the following questions about your subject - What? Why? How? Whom? Where? When? etc.
3. Make a list of all the objects and the environment and issue connected with these
4. Document through photography or sketching the different aspects of the problem being solved

Ouput 7.1: Make a presentation involving images and short text in form of a report or slides (around 6 to 10 pages or slides)

Task 7.2:

Task 7.2:
Home hours: 4, Done individually at Home

Task Title:

Secondary Research **(covered in Module 3):**

1. Analyze your topic into sub-topics and take up one of these for further study and understanding. It could be based on the objects that you have in the Primary Classroom.
2. Do Secondary research by referring to existing information on objects for the Primary Classroom by referring to information on the internet.
3. Search for information on media that is accessible to you. Take down notes as points. Mark important aspects.

Output 7.2: Summarize the information collected along with visuals and short text in form of a report or slides (around 6 to 10 pages or slides)

Task 7.3:

Task 7.3:
School Hours 2, done in groups of 3-4 and Home Hours: 2, done individually

Task Title:

Information Mappings - Temporal and Spatial

Task 7.3a: Temporal Mappings
1. Note down all the activities that happen in the Primary Classroom from morning to evening on any given day of the week. These could include lectures, classwork, working in groups, play/drawing activities, having tiffin or lunch, etc.
2. Note down on a timeline starting from morning till evening the sequence of the activities (you could drawings to represent some of them)
3. Note down the time taken to do the different activities
Output 7.3a: Time Map of the activities in the primary Classroom represented on an A3 size sheet

Task 7.3b: Spatial Mappings
1. Note down all the Objects, facilities, and movement in the Primary Classroom with regard to the space in the Primary Classroom
2. Draw a layout of the classroom on an A3 size sheet
3. Sketch on it the objects that are in the classroom
4. Mark the position of entry and exit points, and the path of movement of the students and teacher in the classroom
Output 7.3b: Space Map of the Objects in the primary Classroom represented on an A3 size sheet

Task 7.4:

Task 7.4:
School Hours: 6, done in groups of 3-4

Task Title:

Information Analysis (classification and affinities):

Task 7.4a: Information Sorting (Affinity Mapping)
1.Summarize information from primary research as points and write this on separate sticky notes (or on sheets of paper cut to size 10cm x 10cm). These are part of your **observations**.
2. Classify the sticky or paper notes related in some way into different categories (some may fit in multiple categories so replicate them)
3. Priorities the sticky notes within the categories according to its importance
Output 7.4a: Classification of data collected and sorted according to its importance

Task 7.4b: Relational Link Connections
4. Find connections (links) between the different groups of sticky notes and these could be your **inferences and insights** from your study
5. Begin discussion within your group on the relevance of these inferences and see if they provide or indicate **opportunities for design** intervention to solve some of the problems

Output 7.4b: Make a chart of classifying the information collected according to the following:

Observations	Inferences/Insights	Design Opportunities
1.		
2.		

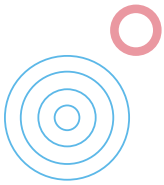
and make a presentation of these in 10 slides

Reflection:

Questions to ponder:

- Which of these methods are you confident about using – Information Sorting, Affinity Mapping, Link Connections, Temporal Mapping or Spatial Mapping?
- Will you use some of the methods to analyse problems at home and in your neighbourhood?
- Will you share the methods of analyzing problems with others?

Assessment:



Assessment Criteria (Task 7.1 + 7.2 + 7.3 + 7.4) - Assess yourself:

- The presentation of the Summary points of the Primary Research is done well (Group task 7.1)

☐ *Beginning* ☐ *Developing* ☐ *Promising* ☐ *Proficient* ☐ *Excellent*

- The summary report/slides of the Secondary Research documentation is done well (Individual task 7.2)

☐ *Beginning* ☐ *Developing* ☐ *Promising* ☐ *Proficient* ☐ *Excellent*

- The Information Sorting/Affinities and Link Connections are done well (Group task 7.3)

☐ *Beginning* ☐ *Developing* ☐ *Promising* ☐ *Proficient* ☐ *Excellent*

- The Temporal and Spatial Mappings were done well (Group task 7.4)

☐ *Beginning* ☐ *Developing* ☐ *Promising* ☐ *Proficient* ☐ *Excellent*

Other References:

Other suggested References:

1. Design Thinking Process - explained with an example:
https://www.youtube.com/watch?v=uRtAzzitBmA
2. Design Thinking Framework - a short video:
https://www.youtube.com/watch?v=LhQWrHQwYTk